New Electro-Medical Apparatus for A.C. Mains

1934 MODELS

Diathermy and Short Wave Apparatus

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"The Stores of the Medical Profession"
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ELECTRO-THERAPEUTIC EQUIPMENT

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Cat. No. 37.
Diathermy Apparatus and Accessories.

Cat. No. E.D. 50.
The "Bio Ray" Infra-Red and Radiant Heat Unit.

Cat. No. 694.
"Emesay" Super Radiant Heat Bath.

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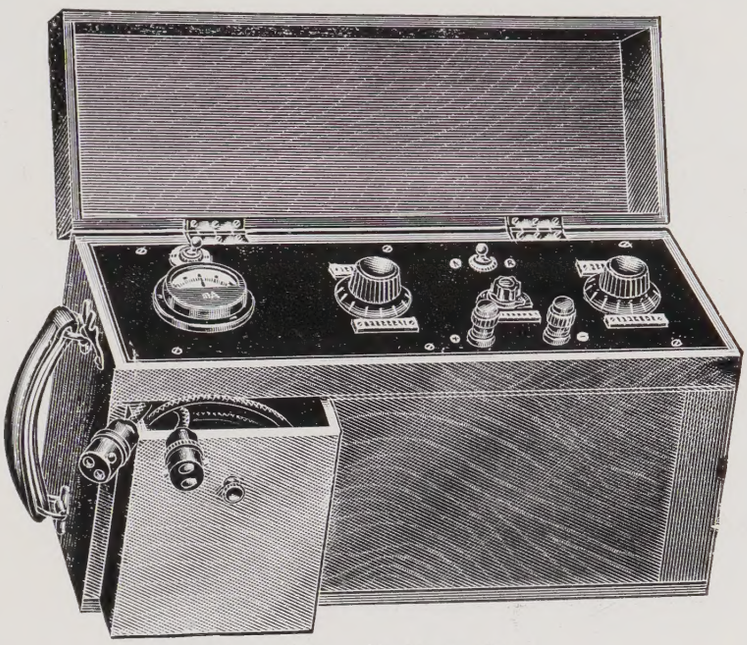
The Limpet Rectifiers

Model 0 for Galvanism.
Model 1 for Galvanism, Sinusoidal and Galvano-sinusoidal currents.

EARTH FREE

FOR A.C. MAINS



Weight 14 lbs.

Size 16″x9″x5½″

Cat. No. G.E.D.501.

Cat. No. G.E.D.499. Limpet Rectifier **Model 0** for connection to alternating current electric supplies for the production of Galvanism, for ionisation, electrolysis, muscle re-action testing, etc.
Price, complete with electrodes **£10 10 0**

Cat. No. G.E.D.501. Limpet Rectifier **Model 1** for connection to alternating current electric supplies for the production of Galvanism and Sinusoidal current for ionisation, electrolysis, muscle re-action testing, etc.
Price, complete with electrodes **£12 12 0**

The Limpet Rectifier is a very efficient unit which may be connected to any alternating current electric light holder or plug. It is extremely light and portable, as will be gathered from the above stated weight and dimensions. The current passing to the patient is absolutely constant, smooth, and free from ripple.

The control panel of figured polished Paxolin is fitted with a dead-beat moving coil milliamperemeter with two shunts, rheostat for regulating the galvanic current, polarity reversing switch, on and off switch, insulated patient connecting terminals, main connecting cable, etc.

The Model 1 Limpet Rectifier is, in addition to the above, provided with a Sinusoidal circuit with independent regulator, thus producing currents for Sinusoidal and Combined Sinusoidal and Galvanic treatments. The whole of the components are fitted in a polished oak case which is provided with a drawer for the reception of the electrodes. A handle is fitted to the end of the case, rendering the unit conveniently portable.

The following electrodes are included in the Models 0 and 1 Limpet Rectifiers :—

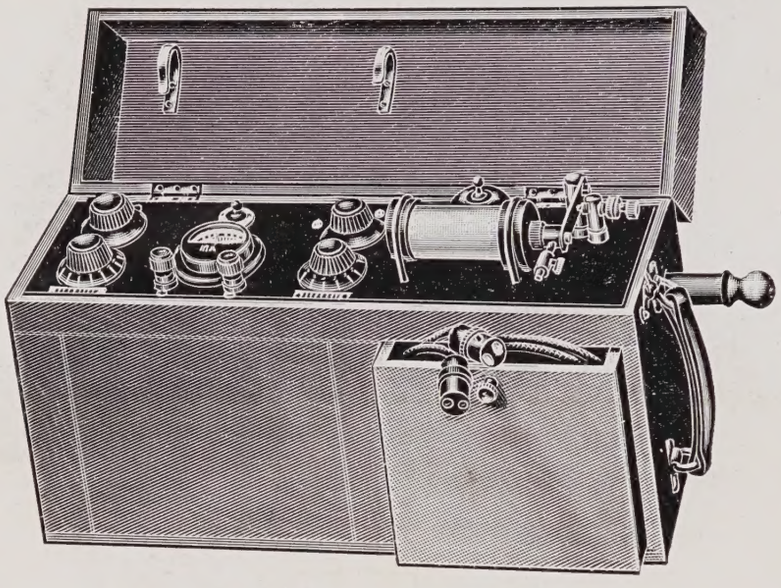
1 pair Limpet patient connecting cables 3 ft. long.
2 Electrode handles.
2 Domegrip terminals.
2 24″ Limpet electrode belts.
2 No. 6 Domegrip electrodes.
2 No. 8 „ „

The Limpet Rectifier

Model 2. For Galvanic, Sinusoidal and Smart Bristow Faradic Currents.

EARTH FREE

FOR A.C. MAINS



Weight 21 lbs.

Size 18″x11″x5½″

Cat. No. G.E.D.501A.

Cat. G.E.D.501A. Limpet Rectifier **Model 2** for connection to alternating current supplies for the production of Galvanism, Smart Bristow Faradism and Sinusoidal current, also combined Galvano-faradism, Galvano-sinusoidal and Sinusoidal-faradism. For Ionisation, Electrolysis, pure and surging Faradism, muscle re-action testing, etc.

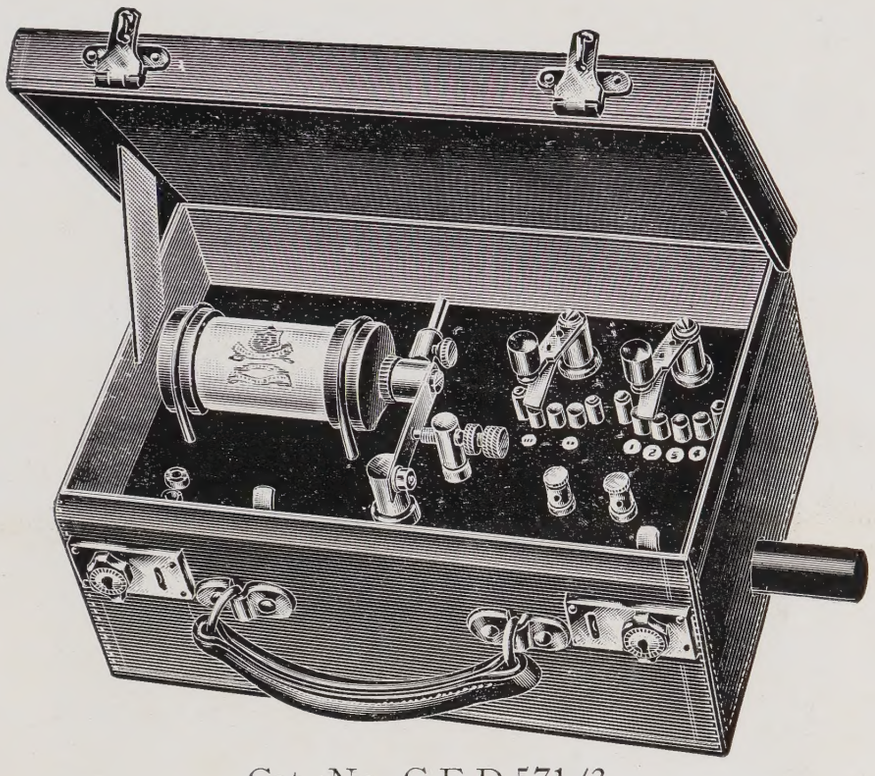
Price, complete with electrodes **£18 18 0**

The Limpet Rectifier Model 2 is generally as described under catalogue G.E.D.501, but is fitted in addition with the standard well proved form of Smart Bristow faradic coil. An entirely independent regulator is provided for the Bristow faradic circuit, and the sliding core for the production of the surging current is inserted at the side of the cabinet. Special clips are provided for the reception of the core during transit. The following electrodes are included in the Limpet Model 2 rectifier :—

1 pair Limpet patient connecting terminals 3 ft. long.
2 Electrode handles.
2 Domegrip terminals.
2 No. 6 Domegrip electrodes.
2 No. 8 „ „
2 24″ Limpet electrode belts.
1 Smart Bristow electrode.

The Limpet Rectifiers are entirely British made, and are made in compliance with the recommendations of the Ministry of Health as set out in their circular No. 161 Med.

Smart Bristow Faradic Coil



Cat. No. G.E.D.571/3.

G.E.D.571. Smart Bristow Coil attaché case pattern.
Price, complete with cells and electrodes **£6 12 6**

The apparatus comprises the standard Smart Bristow Faradic coil with adjustable contact breaker, on and off switch, 1, 2, 3 or 4 layer selector switch and insulated patient terminals. The sliding core is well balanced and easy running; clips are provided in the case for the reception of the core during transit. The unit is supplied complete with two best quality dry cells. A plug socket is provided when it is desired to use apparatus in conjunction with the Faradistat resistance on Direct Current main supply (E.D.118 Faradistat, 22/6).

G.E.D.573. Smart Bristow Coil for connection to Alternating Current supplies. Price, complete with electrodes **£10 12 6**

This apparatus is similarly constructed to the above described standard Smart Bristow coil, but also incorporates the Bristow Former (see overleaf) which rectifies the main Alternating Current and produces the low voltage constant current required for the production of the Smart Bristow faradism. The current is definitely "Earth Free."

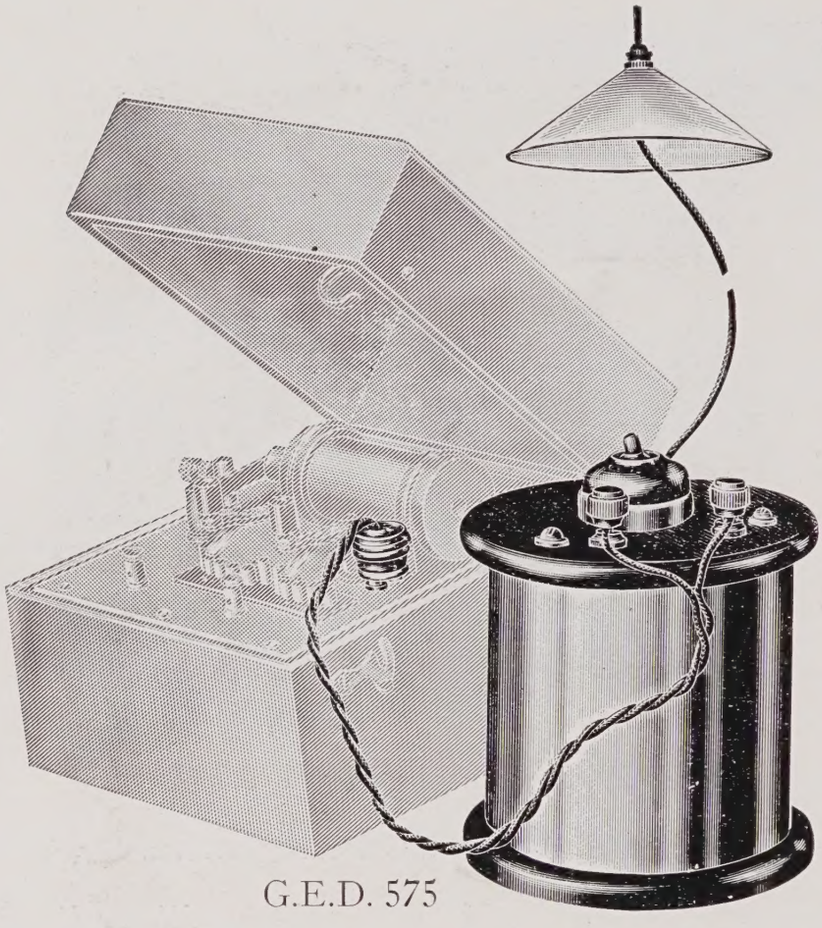
Cat. Nos. G.E.D.571 and 573 are supplied with the following electrodes:—

1 pair Limpet patient connecting cables 3 ft. long.
1 pair Electrode handles.
2 Metal Grip handles.
1 Smart Bristow electrode.
1 Button electrode.
1 Covered Pad electrode 5"x3".

The Bristow Former

EARTH FREE

SHOCK PROOF



G.E.D. 575

Cat. No. G.E.D.575. Bristow Former for operating any Smart Bristow coil from the alternating current supply; separate unit or built into existing coil. Price **£4 0 0**

Hitherto it has been impossible to operate a Bristow or other Faradic apparatus from the alternating current mains by means of the simple lamp rheostats available for use on direct current. We have now successfully provided a means of working any form of Faradic apparatus, including the Bristow coil from the alternating current main by the introduction of the " BRISTOW FORMER " seen in the illustration.

The apparatus is absolutely " Earth Free " and is therefore quite safe under all conditions. It rectifies the alternating current and provides a low voltage direct current for the replacement of the dry cells previously employed.

The trouble and expense of re-charging and the falling off of power associated with the dry cell battery is now avoided.

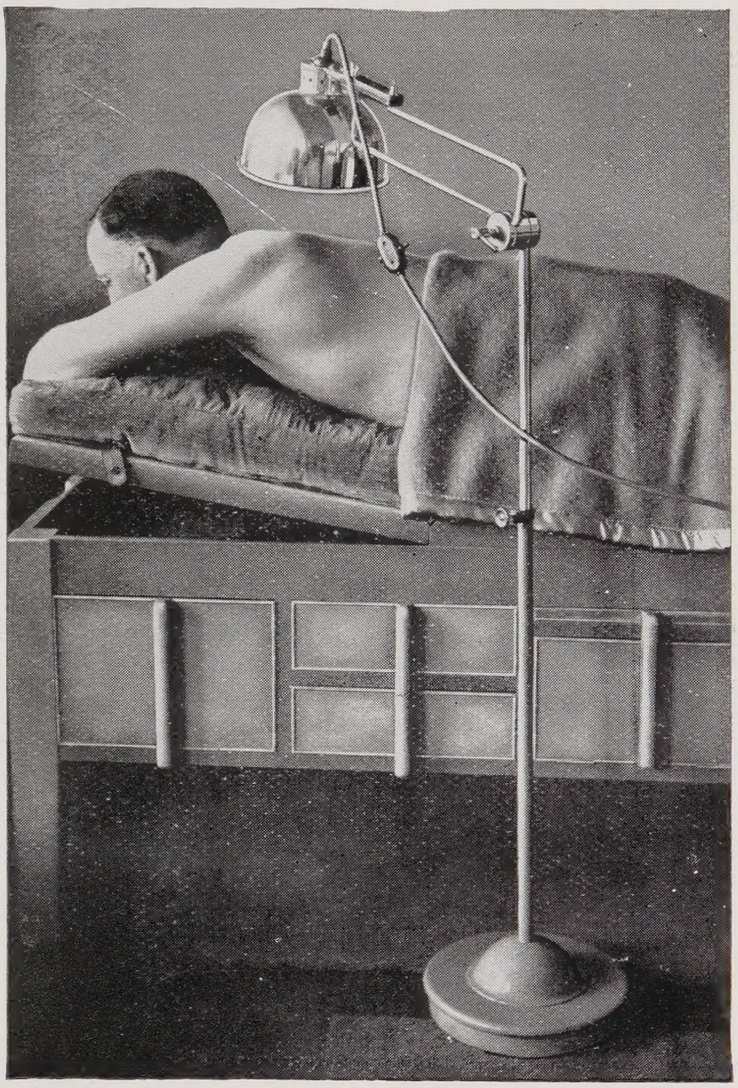
The standard apparatus is supplied in a neat cylindrical form as shown in the illustration. When required to do so we can build the necessary unit into customers' own Bristow coils, and so form a compact unit at the same price, but in this case the customer must return his/her Bristow or other coil for the purpose.

There being no drop of voltage with the " Bristow Former " we can definitely claim that this apparatus will provide a steadier and more pleasant current than is possible with the dry cell battery.

The Bio-Ray Universal Apparatus
for Radiant Heat and Infra Red Applications

INFRA RED AND LUMINOUS HEAT RAYS

MELTED WAX THERAPY



A HANDLAMP AND PEDESTAL UNIT

UNIVERSAL MOVEMENT

Cat. No. G.E.D.685.

Cat. No. G.E.D.685. Bio-Ray Universal Apparatus. Complete with Radiant Heat and Infra Red element.

Price **£3 15 6**

Medicated Wax for melted wax therapy, per carton ... **3 0**

The Bio-Ray apparatus provides Infra Red Rays and Luminous Radiant Heat. It is suitable also for the melted paraffin wax therapy.

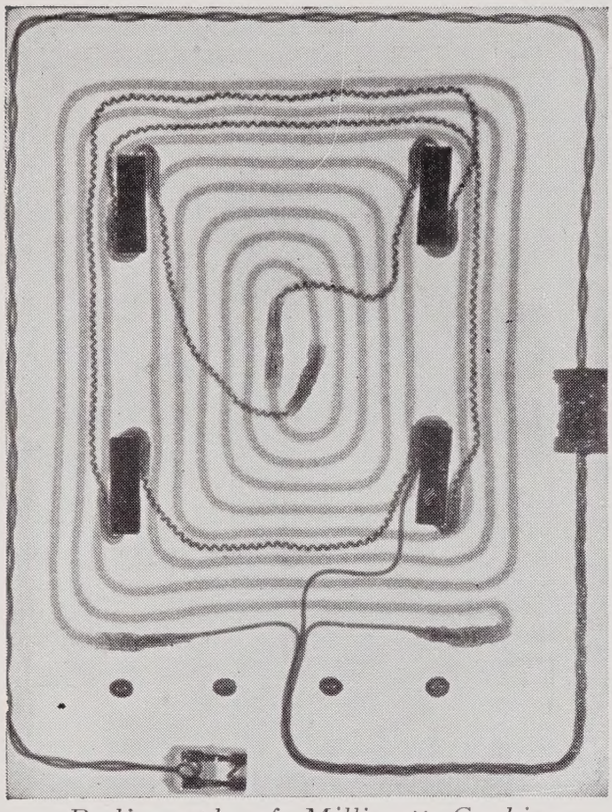
The apparatus comprises a well finished nickel plated standard of telescopic design with cast enamelled base and two foot extension arm, large polished aluminium reflector 9" diameter, rubber covered conducting cable which will not kink and capable of withstanding hard wear, infra red ray element, radiant heat element, extending cross arm for use over a treatment couch or bed, insulating handle and well designed clamping device, which permits the apparatus to be positioned at any angle or height.

If it is desired to use the apparatus for visiting cases, the lamp, with its Bakelite heat resisting handle, is easily detachable from the stand.

Write for Catalogue E.D.50 for full details.

Cat. No. G.E.D.685C. Colour Screens for use with the Bio-Ray Universal Apparatus. The screens can be supplied in the following colours :—red, blue, yellow or orange at **15/-** each.

The Milliwatt Safety Heating Cushion



Radiograph of Milliwatt Cushion, shewing safety cut-outs and automatic heat controllers.

A New Standard in Heating Pads

Constant Temperature Continuously

3 Milliwatt Features!

1. **Quadruple control system** eliminates overheating and ensures even temperature.
2. **Simple temperature regulation** with three degrees of heating.
3. **Efficiency with Economy.** Low current consumption—1/60 to 1/15 of a unit per hour.

Certified by Faraday House.

Cat. No. G.E.D.711. Milliwatt Safety Heating Cushion, complete in box and fitted with 4 automatic thermo cut-outs, rotary switch for three degree heat regulation, three yards flexible conductor fitted with lamp adaptor.

STANDARD SIZE, 15 inches x 13 inches **£1 12 6**
For 100/125 volts. or 200/250 volts., A.C. and D.C.

Cat. G.E.D. No. 713. Milliwatt Safety Heating Cushion.

JUNIOR SIZE, 14 inches x 10 inches **£1 7 6**
100/125 volts. and 200/250 volts., A.C. or D.C.

Please state voltage when ordering.

Patent Heat Control Switch

Rubber Covers for Milliwatt Cushions for protection against moisture with perspiration or wet compress,

Standard size ... **5 0**

Ditto. ... ... Junior size ... **4 0**

The Milliwatt Safety Heating Cushion has innumerable applications in the home, hospital and sick room.

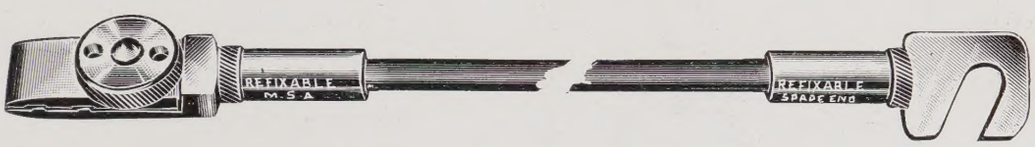
For all conditions in which heat treatment is indicated, *e.g.*, Neuritis, Neuralgia, Rheumatism, Lumbago, Female Complaints, etc., the Milliwatt provides instantly the essential steady warmth from any lamp socket.

Write for descriptive brochures.

The Thermoclip and Galvanoclip Cables

The most perfect Clip for Sheet Metal Electrode Connection.

Thermoclip Cable, type P.



Galvanoclip Cable, type S.

THERMOCLIP CABLES for Diathermy operations with heavy rubber covered flexible, insulated right up to clip.

Cat. No. G.E.D.840.
Type S with spade ends.

4 ft. long	...per pair	**22/-**
6 „ „	„ „	**24/-**
8 „ „	„ „	**26/-**

Cat. No. G.E.D.841.
Type P with pin ends.

4 ft. long	...per pair	**22/-**
6 „ „	„ „	**24/-**
8 „ „	„ „	**26/-**

GALVANOCLIP CABLES for Galvanism and Faradism, Schnee bath treatments, etc.

Cat. No. G.E.D.842.
Type S with spade ends.

4 ft. long	...per pair	**16/-**
6 „ „	„ „	**17/6**
8 „ „	„ „	**19/-**

Cat. No. G.E.D.843.
Type P with pin ends.

4 ft. long	...per pair	**16/-**
6 „ „	„ „	**17/6**
8 „ „	„ „	**19/-**

Cat. No. G.E.D.846. Forked key for use with Galvanoclip and Thermoclip cables **3/-**

Cat. No. G.E.D.848. Heavy cable for Thermoclip cables per yard **1/3**

Cat. No. G.E.D.849. Limpet cable for Galvanoclip cables per yard **6d.**

In introducing the new Thermoclip and Galvanoclip Cables we have satisfactorily overcome the many difficulties experienced in obtaining a really efficient connection to the sheet metal electrodes employed in Galvanic, Faradic and Diathermy treatments.

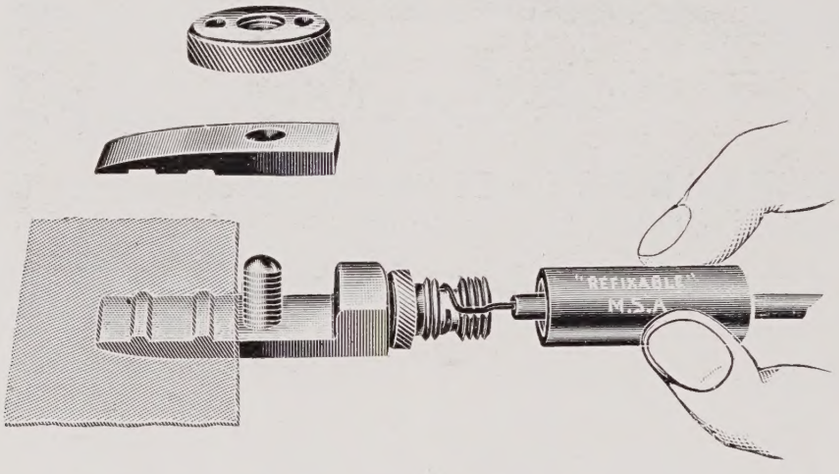
By combining both electrode clip and cable terminal end, this

THE THERMOCLIP AND GALVANOCLIP CABLES—*Continued.*

heretofore indifferent connection—with the possible working loose—is entirely eliminated.

We incorporate in the Thermoclip and the Galvanoclip cables our well known "refixable" terminal end, which makes the fitting of the rubber covered cable, when renewing, a simple and practical procedure which can be readily carried out by the operator.

The electrode clip is of an essentially sound design; the two raised bars on the lower section, with their corresponding recesses on the upper, ensures that absolutely firm contact is made with the electrode metal. It is quite impossible after the clamping screw is tightened, for the clip to be pulled off or to move sideways. Being extremely thin with tapered, rounded edges, all necessary projections are avoided. The clips lie quite flat with the electrode, which is a great advantage when the electrode



Cat. Nos. G.E.D.841-843.
Shewing Thermoclip with Refixable Cable end.

has to be fixed under a recumbent patient. The clamping screw is provided with a milled edge which provides the necessary firm grip for fixing. To further facilitate the tightening of the clamp, two sockets are provided in which to engage a forked key which is specially supplied.

G.E.D.846.

The essential construction of the Thermoclip and Galvanoclip cable is similar. The Thermoclip cable is, however, specially designed for use in diathermy operations, the sleeve for the cable in this case being insulated and of a larger diameter, to accommodate a more heavily insulated cable.

The Galvanoclip cables are supplied with our standard Limpet cable for galvanic and faradic treatments.

Two forms of each cable are supplied, namely Type S, with spade end connection, or Type P with pin end. The type of end required should be stated when ordering.

We specially recommend our "Limpet" and "Plymet" Electrode Metals for use with the Thermoclip and Galvanoclip Cables.
See Cat. G.E.D. pages 96 and 97.

The "Controtherm" Portable Diathermy Apparatus

Size 17"x10"x6". Weight 23 lbs.

SHOCK PROOF

EARTH FREE

Cat. No. E.D.890.

Cat. No. E.D.890. "Controtherm" Portable Diathermy Apparatus for connection to any alternating current supply from 70 to 250 volts. Complete with electrodes, connecting cable and Limpet electrode belts. Price **£22 0 0**

Cat. No. E.D.891. "Controtherm" Rotary Transformer for operating the above apparatus on a direct current supply **£14 10 0**

The "Controtherm" Portable Diathermy Apparatus has been primarily designed for members of the C.S.M.M.G., Bio-Physical Assistants and other clients, and to meet the demand for a really portable and efficient Diathermy apparatus for the treatment of patients in their own houses.

Our twenty years' experience in the manufacture of Diathermy apparatus has been incorporated in the "Controtherm" apparatus, and we are confident we have produced a model which will in every way satisfy the requirements of those operators who undertake visiting cases.

We are definitely of the opinion that we have manufactured a greater number of Diathermy apparatus than any other maker, and our units will be found in the majority of Hospitals, Clinics, etc., throughout the country, where they have been installed on the recommendation of the leading authorities on this subject.

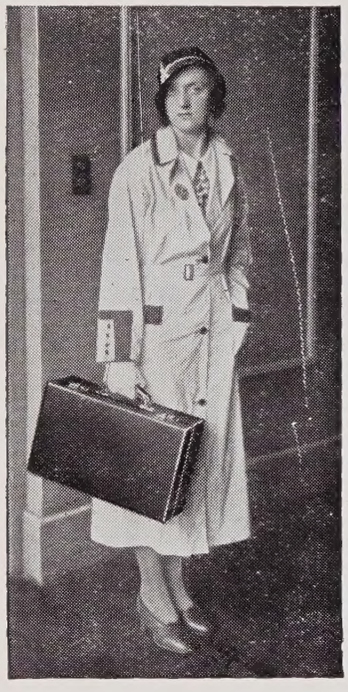
The "Controtherm" Model Diathermy Apparatus is built in a leather attaché case, measuring only 17"x10"x6", and weighs 23 lbs. Its size and weight permits of its being comfortably carried by anyone.

THE "CONTROTHERM" PORTABLE DIATHERMY APPARATUS—*Continued.*

With the reduction of weight and size, we have been able to make a corresponding reduction in the price, and the "Controtherm" model marks a new era in the price of Diathermy apparatus.

Never before has a unit of such capacity and small compass been available at such a low figure.

In every respect have the requirements of our customers been fully supplied, and it will be seen that the apparatus is arranged for connection to any alternating current supply voltage from 70 to 250 volts.



The "Controtherm" Portable Diathermy Apparatus has a rated output of 2,000 M.A., which capacity has been found to be all that is required of a portable unit in practice.

The spark gap is of the improved bi-polar type, and is fitted with solid tungsten faces. There are no micas or other composite dielectrics to break down or give rise to faulty operation.

Radiators of amply large dimensions are fitted to the tungsten gaps to provide adequate cooling and prevent overheating.

The spark gap is built in the interior of the unit, and whilst giving full protection against accidental shock, is easily accessible, when so desired, for inspection or adjustment.

The apparatus is fitted with Dr. Turrell's blocking condensers, so that it may also be used for the dual treatments as suggested by Dr. Bauwens, *viz.*:—Diathermy current in conjunction with Galvanic, Faradic or other current.

The current passing to the patient is absolutely "Earth Free."

Output. The "Controtherm" Portable Diathermy Apparatus is designed to produce quite a reasonably heavy output. In order to give our customers an indication of the capacity, we submit the following readings which were actually taken with a patient in circuit with normal electrode connection:—

Part treated	*Area*	*Current strength*
Chest, back to front ...	7" x 5" electrodes.	1850 milliamperes.
Knee, side to side ...	4" x 3" „	1700 „
Sole of foot to calf ...	6" x 4" „	800 „
Fore arm to shoulder ...	6" x 4" „	950 „
Thigh, back to front ...	7" x 5" „	2000 „
Chest	6" x 4" „	1700 „

The "Controtherm" is supplied complete with the following accessories.

8 various sizes Diathermy Electrodes suitable for treatment of different parts of the body.
2 universal right angled type Domegrip Terminal attachments.
2 18" Limpet belts for fixation of electrodes to the body.
2 36" ditto.
1 pair 5 ft. Connecting Cables.
1 main Connecting Cable.

The Ministry of Health latest recommendations, as set out in their circular No. 161 Med., have been fully observed in this design, and accidental shock is quite impossible from this unit.

The "Junior Equator" Diathermy Apparatus

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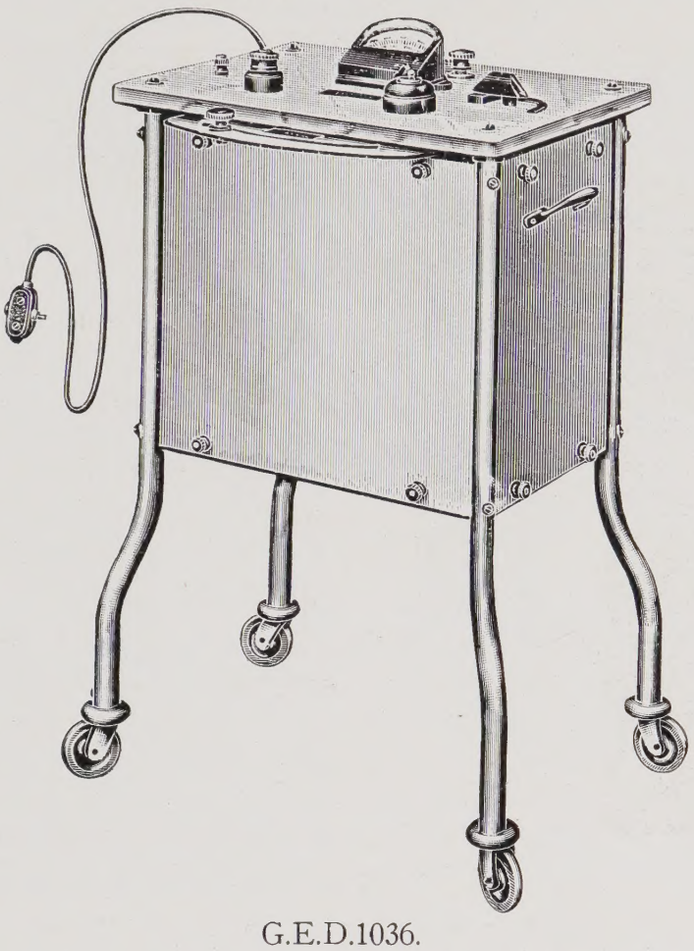


EARTH FREE

G.E.D.1036.

G.E.D.1036. "Junior Equator" Diathermy Apparatus for connection to Alternating Current supplies, 40-60 cycles. Price **£40 0 0**

G.E.D.1038. Rotary Transformer for operating the above apparatus on Direct Current; complete with starter **£22 10 0**

G.E.D.1040. Sinusoidal Current attachment, which can be incorporated in the unit at the time of ordering. Extra **£4 15 0**

The apparatus has been designed for the use of private practitioners and small clinics where the output of our larger models is not required. The unit is capable of meeting all the requirements of general practice, and is arranged to provide high frequency current, in addition to the diathermy current, for use with the vacuum type high frequency glass electrodes. With each apparatus is supplied the necessary insulated applicator handle and 3 vacuum electrodes, in addition to the supply of diathermy electrodes, etc.

The Junior Equator Diathermy Apparatus is also fitted with the safety alarm attachment, full particulars of which are described in our sectional catalogue No. 37.

The unit is constructed as a trolley model, side panels being finished in white cellulose enamel.

The control panel is of white statuary marble.

The spark gap is the latest pattern tungsten type, the condensers are made with mica insulation throughout, and are mechanically clamped to avoid buckling.

This model is specially recommended for tropical climates.

The following current readings were obtained with a patient in circuit using normal electrode connection :—

Part treated	*Area*	*Current strength*
Chest, back to front ...	7″ x 5″ electrodes.	2900 milliamperes.
Knee, side to side ...	4″ x 3″ „	3450 „
Sole of foot to calf ...	6″ x 4″ „	1450 „
Thigh, back to front ...	7″ x 5″ „	3500 „

The Universal Radiotherm Apparatus
for Ultra-Short and Short-Wave Therapy

Cat. No. G.E.D.2102.

Cat. No. G.E.D.2102. Universal Radiotherm Apparatus for connection to alternating current supplies 40-60 cycles.

Price **£199 0 0**

Specification : A universal highly efficient apparatus for general installation in Hospitals, Clinics, etc., and large private practices. Provided with one patient's circuit for Ultra-short wave treatment with a wave length of **6 metres,** two change-over treatment circuits for different sizes of electrodes with **30 metres wave length.** Constructed in cabinet trolley form with desk top control panel fitted with main switch, 6 or 30 metre wave change-over switch, resonance tuning regulator, valve heating regulator for energy regulation, meters, etc.

The Universal Radiotherm incorporates the Siemens valve transmitter apparatus, produces undamped " monochromatic " waves, is silent in operation, and may also be used for electro-surgery.

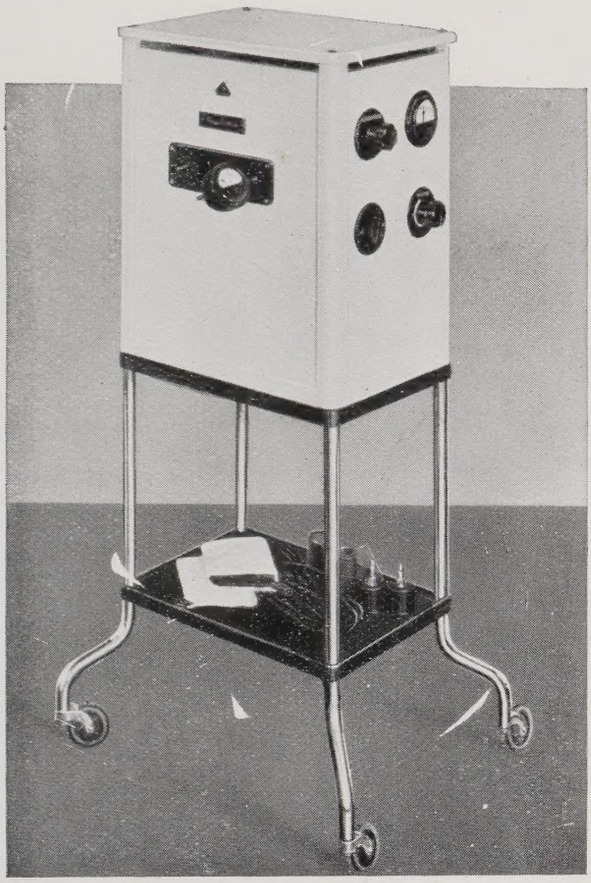
Notes on Radiotherapy.—Despite the fact that Ultra short and short wave therapy is a comparatively recent introduction into the field of electro therapeutics, there is, nevertheless, a very definite indication from the experiences already available, that this form of treatment has a great future and has opened up new possibilities in the application of thermal treatment.

Generally speaking, when we refer to **Ultra Short Wave therapy** we mean treatment in the electrical condenser field with high frequency energy of less than 10 metres wave length, preferably between **3** and **6 metres wavelength** corresponding to a rate of **100,000,000 to 50,000,000 oscillations** per second.

Short Wave therapy is also treatment in the electrical condenser field but with a wave length of **10** to **30 metres.**

Whereas when dealing with ordinary diathermy currents the energy passing between the electrodes follows the path of best conductivity, with Ultra short and Short waves the energy is distributed **completely** and **uniformly** over the part of the body between the electrodes. Consequently by suitable electrode application it is possible to obtain **localised depth effect** even through and in the bones.

The Ultratherm Special
for Ultra Short Wave Therapy



Cat. No. G.E.D.2125

Cat. No. G.E.D.2125. Ultratherm Special for connection to alternating current supplies, 40-60 cycles.
Price **£144 0 0**

Specification: An efficient ultra short wave therapy apparatus working with the therapeutically valuable wave length of **6 metres.** Designed for general medical practice, lung specialists, urologists, ear, nose and throat specialists, dermatologists, dental surgeons and also as an adjunct to the hospital electro-therapeutic department.

Constructed in a pleasing cabinet form as shewn by illustration, with controls reduced to absolute minimum, giving simplicity of operation consistent with maximum efficiency of output. Produces the high output of 200 watts in patients' circuit with 6 metre wave length, incorporates valve transmitter and is silent in operation.

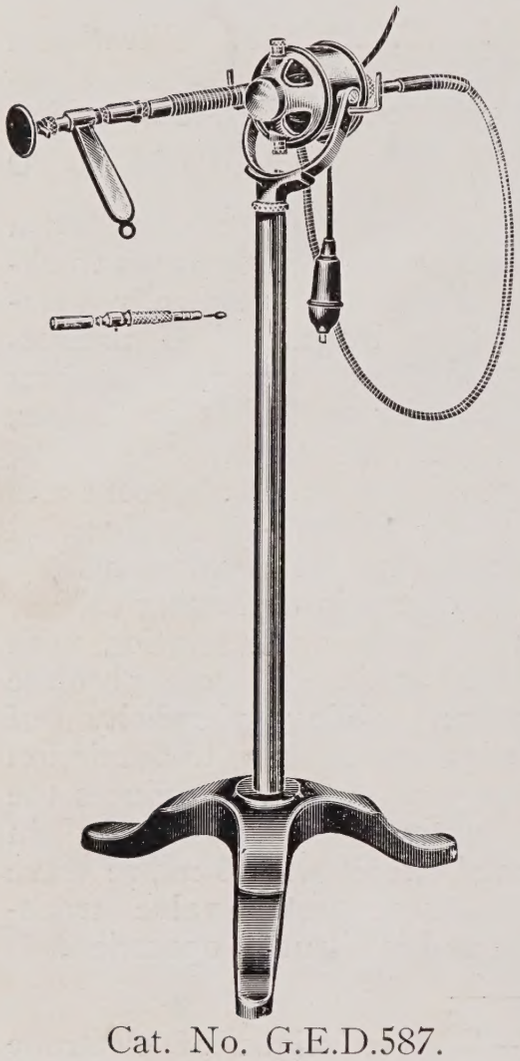
Notes on Radiotheraphy—continued.—The technique of electrode application with Ultra short and short waves is infinitely more simple and convenient than with ordinary diathermy and the danger of **burning** the patient through imperfect contact or sharp edges is **entirely eliminated.** The electrodes used in Ultra Short and Short Wave therapy are of the condenser type, completely enclosed in rubber or air and glass, which do not come in conductive contact with the skin, and consequently it is **not necessary** to unclothe the part to be treated.

Ultra Short and Short Wave therapy has proved highly successful in many cases where diathermy or other heat treatments produce little or only temporary improvement. This is particularly noticeable in rheumatic conditions, localised in certain parts of the body, *e.g.*, in myalgia, lumbago, static muscular complaints, and in neuralgia and neuritis, etc. The penetrative thermal effect of short wave therapy is also definitely indicated in chronic and sub-chronic arthritis in which conditions results are achieved which cannot be obtained with Diathermic heat.

Customers interested in Ultra Short and Short Wave Therapy are invited to communicate with us for further details and information which will be gladly given.

Ask for reprint of Dr. Erwin Schliephake's article, "Ultra Short Electric Waves," from the "British Journal of Physical Medicine," 5th September, 1933.

Electric Motor on Pedestal Stand
for Vibro-Massage and Surgical Operations



Cat. No. G.E.D.587.

Cat. No. G.E.D.587. Electric Motor with flexible shaft for vibro massage and operating surgical drills, burrs, etc., for connection to specified alternating or direct current supplies, complete with handpiece for massage applicators.
Price **£14 15 0**

Surgical Handpiece for taking drills, burrs, etc. **£1 16 0**

The Vibratory Massage Apparatus represents the latest developments in an extremely powerful yet conveniently handled unit. The motor is pivoted on a U bracket which is free to turn in any direction.

The entire weight of the motor and armoured cable is thus borne by the stand mounted on the correctly weighted tripod base. Hence the operator is left complete freedom to apply only a light weight pistol grip holder and applicator (less than 15 ozs.) in any position desired. This entirely eliminates the fatiguing process of holding a heavy rotating motor by hand, and it naturally follows more complete control of the applicator and treatment being administered is obtained. A variety of applicators can be supplied, and the most suitable type can be quickly and easily mounted in the holder. The unit can also be used with an interchangeable quick grip chuck, supplied for holding all types of surgical drills, burrs, etc. A well insulated control switch is conveniently placed, and the entire unit is finished in heavy plating, with the exception of the tripod base, which is in black enamel.

A most attractive appearance is thus combined with a highly efficient unit, which will give lasting satisfaction.

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